DOCUMENT RESUME

ED 343 090 CS 010 864

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TITLE Effects of an Alternative Instructional Approach for Teaching Preservice Teachers How To Teach Strategic Reasoning: Three Illustrative Cases.
SPONS AGENCY Department of Education, Washington, DC.
PUB DATE Dec 91
NOTE 24p.; Paper presented at the Annual Meeting of the National Reading Conference (41st, Palm Springs, CA, December 3-7, 1991).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Course Content; Course Objectives; Higher Education; *Instructional Effectiveness; Instructional Innovation; *Preservice Teacher Education; *Reading Instruction; Teacher Behavior; Whole Language Approach; *Writing Instruction
IDENTIFIERS *Preservice Teachers; *Strategic Reasoning

ABSTRACT

A study examined the efffect of a restructured preservice literacy methods course on the attitudes and beliefs of three preservice teachers. The major goals of the restructured course were to develop substantive and lasting changes in the preservice teachers' conceptual understandings and theoretical perspectives about literacy teaching, and to help preservice teachers learn how to teach for understanding by engaging in responsive instructional actions that place equal emphasis on basic skills, deep thinking and complex understanding about reading and writing. The instructional approach of the course was shifted from a top-down transmission approach to a bottom-up, problem-solving approach. Thirteen preservice teachers completed the year-long course. Data gathering methods included questionnaires, concept webs, journals, informal conversations, reflective essays, filed notes, and individual conferences. The cognitive shifts of three preservice teachers illustrate the variations observed. By the end of the course, Amy's conceptual understandings and theoretical perspectives about literacy teaching had broadened to include elements of whole language and cognitive and metacognitive theories. Sonya's understandings broadened somewhat, but she developed activities that did little to improve the students' thinking and reasoning abilities. Nancy's understandings also broadened somewhat, but for the most part she became more steeped in the traditional theoretical perspectives she brought with her to the course. Five preservice teachers experienced shifts similar to Amy's, four similar to Sonya's, and four similar to Nancy's. (One table of data is included; 32 references are attached.) (RS)

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RUNNING HEAD: Teaching Preservice Teachers

NOTE: This work sponsored by a $49,973 U.S. Department of Education Student Literacy Corps Grant.

CS010864

Paper presented at the annual meeting of the
National Reading Conference
Palms Springs, CA

December, 1991

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Beth Ann Herrmann and Jeri Sarracino

Teaching strategic reasoning has become a popular approach for helping less successful learners become better readers, writers and problem-solvers. In the past decade, numerous articles focusing on teaching strategic reasoning have appeared in practitioner journals such as The Reading Teacher, The Arithmetic Teacher and Language Arts and some popular instructional materials (e.g., basal reader series) have been modified to include an emphasis on strategic reasoning.

Of particular interest to instructional researchers has been effective methods for teaching strategic reasoning associated with successful reading, writing and problem-solving. Through exploratory and experimental work with teachers, a number of researchers have shown that less successful readers, writers and problem solvers can be taught how to reason strategically when reading, writing and solving problems, but the role of the teacher in explaining complex reasoning processes is crucial. For example, Bereiter and Bird (1984) explored three instructional approaches for teaching four reading strategies: (a) modeling-plus-explanation and practice (b) modeling only, and (c) exercise. Results showed that the group that had the strategies explained to them showed a significant increase in the frequency with which they used them as well as significant gain in reading comprehension. Likewise, Duffy, Roehler, Sivan et al., (1987) explored an explicit explanation instructional model for teaching strategic reasoning during reading that emphasized teacher verbalization of complex reasoning processes associated with effective reading followed by teacher mediation of student understandings on a gradual release basis. Results showed that teachers who explained and modeled cognitive reasoning processes associated with reading strategies were more effective in teaching less successful readers to be strategic than teachers who did not explain or model reasoning processes. Similar studies with similar results

have been conducted in mathematics (Herrmann, 1986; Schoenfeld, 1983) and writing (Englert, Raphael, Anderson, et al., 1991). In sum, all of these studies of instructional methods for teaching strategic reasoning suggest that teacher modeling and explanation play a major role in helping less successful readers, writers and problem solvers learn how to reason strategically. They also suggest that modeling and explaining reasoning processes associated with successful reading, writing and problem-solving is difficult.

Surprisingly, as a topic of empirical research, teaching teachers how to teach strategic reasoning has received little attention. A few studies, however, suggest that it is both time consuming and difficult for teachers to learn how to teach strategic reasoning. For example, Anderson (1991) taught teachers of learning disabled students how to think aloud about reading strategies. Results suggest that the teachers moved rather slowly through three developmental stages as they learned how to use the think-aloud technique: (a) getting started, (b) searching for a structure or instructional routines, and (c) moving toward spontaneous and opportunistic teaching within a structure or routine. Likewise, after working two years with six inservice teachers in a five year staff development project, Duffy (1990) reported considerable difficulties on the part of the teachers with restructuring their literacy classrooms to include an emphasis on strategic reasoning. In a summer school program, Beard El-Dinary and Pressley (1990) studied three teachers who had several years experience with teaching comprehension strategies. All of the teachers reported that it took at least a year for them to feel comfortable teaching comprehension strategies. In a similar study currently in progress, Beard El-Dinary and Pressley (1991) reported that two out of three teachers new to teaching comprehension strategies they are studying are experiencing difficulty. Roit (1991) worked with three inservice teachers who experienced similar difficulties with learning how to be transactional strategy instructors. Results of studies conducted with preservice teachers suggest that it is equally as time consuming and difficult for them to learn how to teach strategic reasoning. For example, Herrmann and Duffy (1989) taught preservice teachers enrolled in two different literacy methods courses how to teach strategic reasoning. In both studies, the preservice teachers experienced a great deal of difficulty, particularly with

learning how to explain and model reasoning processes.

Although much more needs to be learned about teaching teachers how to teach strategic reasoning, results of these studies suggest that staff developers and/or teacher educators/researchers may need to reconsider how they are going about teaching teachers how to teach strategic reasoning. In most cases, one or more of the following instructional components are used in training programs for teachers: (a) verbal and/or written information about a specific instructional models (e.g., explicit explanation) and/or specific instructional practices (e.g., modeling) for teaching strategic reasoning is discussed, (b) videotaped and/or live demonstrations of exemplary and less-than-exemplary lessons exploying the instructional models and/or practices are shown and discussed, (c) multiple opportunities for teachers to teach strategic reasoning in authentic and/or simulated teaching situations are provided, (d) videotaped lessons of teachers teaching strategic reasoning are critiqued and feedback is provided followed by additional information, advice or prompts (e.g., scripts) focusing on how to explain and/or model reasoning processes. In the past few years we have used all of these instructional techniques with preservice teachers within the context of literacy methods courses. Unfortunately, however, we have experienced only marginal success with these instructional techniques. At best, we produced preservice teachers who, in the short run, went through the motions of teaching strategic reasoning, but who in the long run, failed to develop deep understandings of instructional actions associated with teaching strategic reasoning primarily because the theoretical perspective about liteacy teaching they brought with them to the course did not change. Consequently, their ability to teach strategic reasoning was short-lived.

We recognize how difficult it is for preservice teachers to learn how to teach strategic reasoning, but at this point in our work we have come to realize that our own instruction may be contributing to the difficulties our preservice teachers are experiencing. After much deliberation, we decided to try something different. The purpose of this paper is to describe what we did differently and the effect it had on three preservice teachers.

An Alternative Approach

During the 1990-1991 academic school year we restructured our preservice literacy methods course. Our restructuring efforts were grounded in current trends toward reflective teaching (Zeichner & Liston, 1990), authentic learning/research environments (Holmes Group, 1990; Cochran-Smith, 1991) and teaching for understanding (Holmes Group, 1990; Prawat, 1989). In the following sections, changes we made in the goals and the format and content of the course, as well as our own instructional approach are described.

Goals

We shifted the major goal of our course from helping preservice teachers learn how to become strategy teachers to helping preservice teachers (a) develop substantive and lasting changes in their conceptual understandings and theoretical perspectives about literacy teaching, and (b) learn how to teach for understanding in their own literacy classrooms by engaging in responsive instructional actions that place equal, rather than sequential emphasis on basic skills, deep thinking and complex understandings about reading and writing, while at the same time promote individual students' interests, developmental growth and greater equity, social justice and humane conditions in literacy teaching. We hypothesized that this shift would lead to more substantive and lasting changes in the way the preservice teachers thought about literacy instruction, which, in turn would lead to substantive and lasting changes in their instructional actions.

Format and Content

We made three major changes in the format of the course. First, we extended the length of time we typically have to work with preservice teachers (15 weeks) by scheduling two semester-long required undergraduate literacy methods courses back-to-back, Fall and Spring semesters and encouraging students to sign up for both courses. We rationalized extending the length of our course on the basis of previous research on teaching and learning that suggests that it takes time to foster conceptual understandings and on the basis of our previous work with preservice teachers that suggests that one semester is an inadequate amount of time to create substantive and lasting changes in their conceptual understandings of literacy instruction (Herrmann, 1989). Second, we

enlisted graduate student mentors for the preservice teachers by scheduling two semester-long required graduate literacy methods courses back-to-back, Fall and Spring semesters, during the same time slot as the undergraduate literacy courses. Beginning with the first day of class, we combined the preservice teachers and the graduate students for all class sessions. We rationalized graduate student mentors on the basis of recent research and development projects on mentoring (Gray & Gray, 1986) as well as an emerging definition of mentoring that suggests reciprocity in learning in mentoring relations (Healy & Welchort, 1990). Third, we created an after-school literacy tutoring program for at-risk children and their parents as a major component of the new course, to provide a context for authentic literacy teaching experiences and collegiality and collaboration among the preservice teachers and graduate students (see Herrmann & Sarracino, 1991a for a detailed description of the tutoring program). Our efforts to create this type of environment were theoretically grounded in the notions of authenticity and learning community which suggest that "learning emerges best from an active process of constructing public and private meaning in a community of discourse" (Holmes Group, 1990 pg. 11).

The course was conducted in four phases. Phase I (August, 1990-September, 1990) consisted of twelve two-hour, bi-weekly university-based class sessions during which the preservice teachers and the graduate students participated in large and small group discussions of articles from the professional literature describing the theories mentioned earlier and videotaped instructional segments representing each theory. Phase II (October, 1990-December, 1990) consisted of twelve two-hour, bi-weekly, school-based tutoring sessions whereby teams of preservice teachers taught small groups of children (grades 1-9) parents. Phase III (January, 1991) consisted of four two-hour, bi-weekly university-based class sessions during which the preservice teachers and the graduate students participated in large and small group discussions similar to those conducted during Phase I. Phase IV (February, 1991-April, 1991) consisted of fifteen tutoring sessions and three seminar sessions similar to those described earlier.

In addition to the changes in the course format, we shifted the content of the course from an emphasis on a number of specific topics (e.g., strategic reasoning and mental modeling) to a more

focused emphasis on reflective inquiry and practice which we defined as on-going critical reflection (Van manen, 1977) about various theories currently influencing the literacy field -- skill-based theories (e.g., those described by Samuels & Kamil, 1984), cognitive theories (Fredericksen, 1984), metacognitive theories (Baker & Brown, 1984) and the whole language philosophy (Goodman, 1989). Emphasis was placed on how the theories are influencing the literacy field, the "competing" nature of the theories and the extent to which instruction grounded in the theories accomplishes (a) attitude outcomes - developing accurate conceptual understandings of reading and writing and a positive response to reading and writing; (b) content outcomes - understanding what you read and writing coherent text; and (c) process outcomes - developing awareness and control of reasoning processes associated with effective reading and writing (Duffy & Roehler, 1989). Emphasis was also placed on how the theories describe students' cognitive, social, moral and language development and the social contexts of literacy teaching. We rationalized this shift on the basis of research on teaching and learning that suggests that emphasis on depth rather than breadth leads to more substantive and lasting conceptual understandings (Newman, 1988).

Instructional Approach

We shifted our instructional approach from a top-down, "how to" transmission approach, whereby we imparted knowledge and espoused theories, to a bottom-up, problem-solving approach designed to create conceptual understandings about literacy teaching among the preservice teachers through dialectical discourse (Roby, 1988) and authentic teaching experiences (Holmes Group, 1990). During the discussion phases of the course (Phase I and III), we facilitated dialectical discussions about various theories after the preservice teachers and graduate students had read articles from the professional literature and viewed videotaped lessons. During the tutoring phases of the course (Phases II and IV) we coached the preservice teachers by helping them work through thoughtful analyses of their own lessons through professional dialogue (Hargreaves & Dawe, 1990). Across all four phases of the course we attempted to establish a middle ground (Bereiter, 1985) between explicit teaching (Duffy et al., 1987), whereby we intervened to provide additional information and/or clarify misconceptions, and discovery learning (Anderson & Smith, 1987),

through which the preservice teachers worked to clarify their own misconceptions. We rationalized this type of instructional approach on the basis of our previous work with preservice teachers that resulted in surface-level conceptual changes on the part of the preservice teachers, rather than substantive and lasting conceptual and theoretical change.

Effects of the Alternative Approach

We hypothesized that our new approach to the course would result in substantive and lasting conceptual and theoretical change on the part of the preservice teachers, which in turn, would lead to deep understandings about how to teach strategic reasoning within the context of authentic and purposeful literacy experiences. Thirteen preservice teachers who completed all four phases of the project were targeted for extensive study (Herrmann & Sarracino, 1991b). We collected data across all four phases of the course through the use of concept questionnaires, concept webs, professional journals, informal conversations, reflective essays, field notes and individual conferences. The constant comparative method (Glaser & Strauss, 1967) was used both during and after data collection to reduce the data to codifiable categories and properties. Results of our analysis reveal considerable variation among the preservice teachers relative to cognitive, social and emotional shifts.

In the following sections we focus on the cognitive shifts of three preservice teachers -- Amy, Sonya and Nancy -- to describe the effect our alternative approach had on the preservice teachers' conceptual understandings and theoretical perspectives about literacy teaching and their instructional actions. We selected these particular preservice teachers as examples because their cases are illustrative of variations we observed among the preservice teachers. We begin with a general description of the preservice teachers.

General Description of the Preservice Teachers

All three preservice teachers attended elementary and secondary school in the southeast and all considered themselves to be average to above average K-12 students. They learned to read through fairly traditional literacy practices. For example, they all remembered participating in

student-centered activities (e.g., reading and writing games) and drill-and-practice skill lessons designed to help them learn how to pronounce words and understand what they read.

All of the preservice teachers described themselves as average to above average college students. At the beginning of the year-long course they were seniors in their fourth year of a five-year interdisciplinary studies degree program offered by the College of Humanities and Social Sciences. Amy and Sonya were pursuing Early Childhood Education certification; Nancy was pursuing certification in Elementary Education. All three preservice teachers had completed approximately sixty credit hours of general education requirements and approximately thirty credit hours of professional program requirements. All three preservice teachers were enrolled in practica courses at the same time they were enrolled in the year-long literacy course and they all planned to student teach during the Fall 1991 semester.

At the beginning of the year-long literacy course all three preservice teachers' theoretical perspectives about literacy teaching were grounded in their own K-12 literacy experiences. For example, they thought reading and writing should be taught through student-centered activities and drill-and-practice skill lessons with emphasis on accurate pronunciation and understanding, much like what they had experienced as K-12 literacy students. They thought the primary role of the literacy teacher was to transmit information and assist students with tasks (e.g., worksheets) and the primary role of the student was to absorb information and complete tasks.

All of the preservice teachers experienced cognitive change during the year-long literacy course, but there was considerable variation among them relative to type of changes that occurred, the magnitude of the changes and when the changes took place. Cognitive shifts observed for all three preservice teachers across all four phases of the course are shown in Table 1 and described in the following sections.

Insert Table 1 about here

Amy

As shown in Table 1, from the beginning to the end of the course Amy's conceptual understandings and theoretical perspectives about literacy teaching shifted from a traditional, skills-based perspective to a more wholistic, skills/cognitive-based perspective. The shift in her thinking occurred midway through Phase II of the course.

Amy acquired a great deal of new knowledge during Phase I of the course about theories influencing the literacy field, but it had little effect on her conceptual understandings and theoretical perspectives about literacy teaching. For example, note the following comment Amy made on her concept questionnaire at the end of Phase I which suggests that she was still thinking about literacy teaching from a traditional perspective (October, 1990).

> *Literacy is the ability to read letters, words and numbers, understand them, write them and comprehend them. To provide effective literacy instruction teachers should provide books, promote the library and teach reading skills and tips.*

Amy's traditional conceptual understandings and theoretical perspectives were reflected in the first few lessons she developed and implemented for her second grade students during the fall phase of the tutoring program (Phase II). For example, during one lesson in October, 1990, Amy taught sequencing by providing her students with rote information about sequencing from a basal reader manual and then having them put story pictures in order. Emphasis was placed on the importance of story order for understanding text, but how to reason strategically about story order was not taught.

Midway through Phase II, however, Amy's conceptual understandings and theoretical perspectives about literacy teaching gradually began to shift toward a wholistic/cognitive perspective, as evidenced by the types of lessons she developed and implemented during the latter part of Phase II. For example, during one lesson in late November, 1990, Amy taught her students a context clue strategy for figuring out unknown words in text. Emphasis was placed on the importance of thinking and reasoning about surrounding words in the text and the beginning sound of the unknown word. For this lesson Amy did more than provide rote information from a basal manual as she had done in previous lessons; she explained how to use the strategy and

demonstrated its use by pretending not to know a word in the story she was reading to the group. Then the students were invited to try to use the strategy.

The shift in Amy's conceptual understandings and theoretical perspectives about literacy teaching were evident during Phase III of the course as illustrated by the following journal entry she made in January, 1991.

> *I don't think that I completely understand whole language but it is the theory which I lean towards the most. I think that the students learn by doing active thinking and things with the lesson. I enjoyed reading books to my students last semester and incorporating predictions, context clues, sequencing, etc. I didn't think I could teach these higher order thinking skills but I think I was successful.*

While her journal entry reveals that Amy was leaning toward adopting a whole language theoretical perspective it suggests that he was trying to figure out how to teach thinking and reasoning within the context of authentic literacy experiences.

The shift in Amy's conceptual understandings and theoretical perspectives was evident during the first few lessons she developed and implemented for her second grade students during the spring phase of the tutoring program (Phase IV). For example, during one lesson in February, 1991 Amy taught her students a strategy for using prior knowledge to construct meaning from a student-selected book about the first day of school. She attempted to show the students how to use their prior knowledge by thinking out loud about her own experiences on the first day of school while trying to construct meaning from the text. The demonstration Amy provided during this lesson revealed more thinking than demonstrations she provide during Phase II lessons. Most of the lessons Amy taught during Phase IV focused on thinking and reasoning with emphasis on how to use prior knowledge in combination with context clues and beginning sounds to figure out unknown words. She attempted to create purposefulness during Phase IV lessons by using books the students wanted to learn how to read.

In sum, by the end of the course Amy's conceptual understandings and theoretical perspectives about literacy teaching had broadened to include elements of whole language and cognitive and metacognitive theories, which in turn, led to a deep understanding on her part about how to teach strategic reasoning within the context of authentic and purposeful literacy experiences. Although

Amy struggled during Phase IV lessons with how to verbalize thinking and reasoning, she consistently engaged in responsive instructional actions that placed equal emphasis on basic skills, deep thinking and complex understandings about reading and writing, while at the same time promoting individual student's interests and developmental growth.

Sonya

As shown in Table 1, from the beginning to the end of the course Sonya's conceptual understandings and theoretical perspectives about literacy teaching shifted somewhat from a traditional, skills-based perspective to a more wholistic perspective. The shift in her thinking occurred during Phase III of the course.

Like Amy, Sonya acquired a great deal of new knowledge during Phase I of the course about theories influencing the literacy field, but it had little effect on her conceptual understandings and theoretical perspectives about literacy teaching. For example, note the following comment Sonya made on her concept questionnaire at the end of Phase I which suggests that she was still thinking abut literacy teaching from a traditional perspective (October, 1990).

> *Literacy is being able to read and write. To provide effective literacy instruction teachers should be in tune with students, pay close attention to errors students are making and how frequently they are made. Provide plenty of practice for all students. Provide positive corrections for students.*

Sonya's traditional conceptual understandings and theoretical perspectives were reflected in the lessons she developed and implemented for her third grade students during the fall phase tutoring program (Phase II). For example, during one lesson in early November, 1990, Sonya taught following directions by providing rote information about following directions and then having the students complete a following directions activity. Emphasis was placed on the importance of reading, understanding and following directions, particularly written directions for school activities. Most of the lessons Sonya taught during Phase II focused on isolated skills such as this utilizing games and worksheets. During most of these lessons Sonya transmitted rote information to her students who were expected to absorb the information and complete tasks/activities designed to provide them with opportunities to practice skills they were taught.

Midway through Phase III, however, Sonya's conceptual understandings and theoretical perspectives about literacy teaching gradually begin to shift toward a wholistic/metacognitive perspective, as illustrated by the following comment she made on her January, 1991 concept questionnaire.

> *Literacy instruction should engage students in thinking about how they think. The teacher should provide a positive environment and foster creativity. That will help students learn effectively how to read and write.*

While her comments suggest that Sonya was trying to figure out how to teach metacognitive thinking within the context of authentic literacy experiences, her instruction during the spring phase of the tutoring program suggested otherwise. For example, during one lesson in March, 1991, Sonya facilitated an activity whereby the students wrote biographies about each other. Emphasis was placed on creating a positive literate environment, but metacognitive thinking associated with effective reading and writing was not taught. Most of the lessons Sonya taught during Phase IV were designed to foster enjoyable literacy experiences. She attempted to teach some skills (e.g., inferences), but she did not play a major instructional role in these lessons. Rather, students were provided opportunities to practice using skills within the context of authentic (but not necessarily purposeful) literacy experiences.

In sum, by the end of the course, Sonya's conceptual understandings and theoretical perspectives had broadened somewhat to include elements of whole language and metacognition, but in practice, she more-or-less implemented a whole language approach. She developed and implemented activities that promoted students' interests, but did little to improve the students' thinking and reasoning abilities.

Nancy

As shown in Table 1, from the beginning to the end of the course Nancy's conceptual understandings and theoretical perspectives about literacy teaching shifted slightly from a traditional, skills-based perspective to a wholistic, skills-based perspective. The shift in her thinking occurred during Phase IV of the course.

Like Amy and Sonya, Nancy acquired a great deal of new knowledge during Phase I of the

course about theories influencing the literacy field, but it had little effect on her conceptual understandings and theoretical perspectives about literacy teaching. For example, note the following comment Nancy made on her concept questionnaire at the end of Phase I which suggests that she was still thinking about literacy teaching from a traditional perspective (October, 1990).

> *The overall goal of literacy instruction is to teach the children how to read and write. The teacher can provide information on using context clues, prior knowledge and etc. to help with literacy. The teacher can also encourage more reading on a variety of subjects.*

Nancy's traditional conceptual understandings and theoretical perspectives were reflected in the lessons she developed and implemented for her fifth grade students during the fall tutoring phase (Phase II). For example, during one lesson in October, 1990, Nancy taught a context clue lesson by providing her students with rote information about context clues from a basal reader manual and then having the students use context clues from a story they read to write definitions for unfamiliar words. Emphasis was placed on the importance of using context clues, but how to reason strategically about context was not taught. Most of the lessons Nancy taught during Phase II focused on isolated skills such as utilizing "school-like" materials. During most of these lessons Nancy transmitted rote information to her students who were expected to absorb the information and complete tasks/activities.

Nancy's conceptual understandings and theoretical perspectives began to shift slightly during Phase III of the course as illustrated by the following comment she made on her January, 1991 concept questionnaire.

> *Literacy is being able to read and write. Teachers should bring a variety of reading material into the class. They should also allow students to read what interests them.*

Nancy's comment suggests that she was trying to figure out how to make her instruction more interesting and enjoyable, which became evident during the spring phase of the tutoring program (Phase IV). For example, during one lesson in March, 1991, Nancy taught context clues by using a cloze activity and later that month she taught prefixes and suffixes by using a teacher-made bingo game. Most of Nancy's Phase IV lessons consisted of student-centered activities such as these that focused on specific skills. She assumed the role of a facilitator during these lessons and more

active student participation in lesson activities was encouraged.

In sum, by the end of the course Nancy's conceptual understandings and theoretical perspectives about literacy teaching had broadened slightly, but for the most part she became more steeped in the traditional theoretical perspectives she brought with her to the course. Her instructional actions promoted student interests and basic skills but they did not promote thinking and complex understandings about reading and writing.

Summary and Conclusions

During the 1990-1991 academic school year we experimented with an alternative approach for teaching preservice teachers how to teach strategic reasoning. As such, we restructured our preservice teacher literacy methods course by creating a year-long course for preservice teachers and graduate student mentors with emphasis on reflective inquiry and practice. Our intent was to help the preservice teachers develop substantive and lasting changes in their conceptual understandings and theoretical perspectives about literacy teaching, which we hoped would lead to deep understandings about how to teach strategic reasoning with the context of authentic and purposeful literacy experiences.

We targeted thirteen preservice teachers for extensive study, the results of which revealed considerable variation among the preservice teachers relative to the type and magnitude of cognitive shifts they experienced and when the shifts occurred as illustrated by the three cases described in this paper. Out of the thirteen preservice teachers we targeted five experienced cognitive shifts similar to Amy's, four experienced cognitive shifts similar to Sonya's and four experienced cognitive shifts similar to Nancy's. We have speculated into several reasons for the variation we observed among the preservice teachers (Herrmann & Sarracino, 1991b), but for the purposes of this paper, we focus on what we think we accomplished relative to our restructuring goals.

We begin by clarifying that we are neither disappointed nor discouraged by our initial efforts to create an alternative approach for teaching preservice teachers how to teach strategic reasoning, or the effect it had on the preservice teachers. On the surface level we are concerned that only five of

the preservice teachers learned how to teach strategic reasoning within the context of authentic and purposeful literacy experiences, but on the other hand, we accomplished something much more important. The majority of our preservice teachers left our course with substantively different conceptual understandings and theoretical perspectives about literacy teaching than they brought with them to the course. While we don't necessarily agree with some of the preservice teachers' developing theoretical perspectives, we no longer think that that is what is important. What is important is that they began to learn how to think for themselves; that they learned what it means to develop their own theoretical perspectives about literacy teaching through on-going critical reflection, rather than adopting verbatim the theoretical perspectives of others. Equally as important, however, they learned what it means to explore and adapt "competing" theories in complementary ways; that what is important is how well the theories can work together, rather than against each other, as a basis for literacy instruction.

In the long run our alternative approach may have contributed more to the development of effective literacy teaching than if we had produced thirteen or twenty preservice teachers who knew how to go through the motions of teaching strategic reasoning, but who did not know how to think for themselves. However, we have only begun to see the results of our restructuring efforts. We look forward to following Amy, Sonya and Nancy as they move into student teaching where we will undoubtably learn much about the long-term effective of our alternative approach.

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Table 1

Description of cognitive shifts among three preservice teachers from the beginning to the end of the course (August, 1990-April, 1991)

Categories of Conceptual Change	Teacher	PHASE I (August-September)	PHASE II (October-December)	PHASE III (January)	PHASE IV (February-April)
Content of literacy instruction. What should be taught during literacy lessons?	Amy	specific skills	specific skills → useful skills, metacognitive thinking and cognitive strategies	useful skills, metacognitive thinking and cognitive strategies	useful skills, metacognitive thinking and cognitive strategies
	Sonya	specific skills	specific skills	specific skills → children's literature/writing	children's literature/writing
	Nancy	specific skills	specific skills	specific skills	specific skills
Instructional focus. What should be emphasized during literacy lessons?	Amy	accurate pronunciation and understanding	accurate pronunciation and thinking and understanding →	thinking and understanding	thinking and understanding
	Sonya	accurate pronunciation and understanding	accurate pronunciation and understanding	accurate pronunciation and understanding → having fun with reading and understanding	having fun with reading and understanding
	Nancy	accurate pronunciation and understanding	accurate pronunciation and understanding	accurate pronunciation and understanding	accurate pronunciation and understanding
Instructional strategies. How literacy should be taught.	Amy	student-centered activities and drill-and-practice skill lessons	student-centered activities and drill-and-practice skill lessons → authentic and purposeful reading and writing experiences	authentic and purposeful reading and writing experiences	authentic and purposeful reading and writing experiences
	Sonya	student-centered activities and drill-and-practice skill lessons	student-centered activities and drill-and-practice skill lessons	student-centered activities and drill-and-practice skill lessons → authentic reading and writing activities	authentic reading and writing activities
	Nancy	student-centered activities and drill-and-practice skill lessons	student-centered activities and drill-and-practice skill lessons	student-centered activities and drill-and-practice skill lessons	student-centered activities and drill-and-practice skill lessons → student-centered activities

Categories of Conceptual Change	Teacher	PHASE I (August-September)	PHASE II (October-December)	PHASE III (January)	PHASE IV (February-April)
Instructional materials. What should be used to teach literacy?	Amy	games, stories, worksheets	games, stories, worksheets → teacher and student selected children's literature/materials	teacher and student selected children's literature/materials	teacher and student selected children's literature/materials
	Sonya	games, stories, worksheets	games, stories, worksheets	games, stories, worksheets → teacher selected children's literature	teacher selected children's literature
	Nancy	games, stories, worksheets	worksheets	worksheets, games →	games
Role of the teacher. What the teacher should do to teach literacy.	Amy	transmit information and assist with tasks	transmit information and assist with tasks → provide information and guide learning	provide information and guide learning	provide information and guide learning
	Sonya	transmit information and assist with tasks	transmit information and assist with tasks	transmit information and assist with tasks → facilitate activities	facilitate activities
	Nancy	transmit information and assist with tasks	transmit information and assist with tasks	transmit information and assist with tasks	transmit information and assist with tasks → facilitate activities
Role of the student. What the student should do to become more literate.	Amy	absorb information and complete tasks/ activities	absorb information and complete tasks/activities → be an active participant in learning about reading and writing	be an active participant in learning about reading and writing	be an active participant in learning about reading and writing
	Sonya	absorb information and complete tasks/ activities	absorb information and complete tasks/activities	absorb information and complete tasks/activities → be an active participant in activities	be an active participant in activities
	Nancy	absorb information and complete tasks/ activities	absorb information and complete tasks/activities	absorb information and complete tasks/activities	absorb information and complete tasks/activities → be an active participant in activities